

WHAT IS CLAIMED IS:

1. A semiconductor laser device in which, on an n-type GaAs substrate, there are at least an n-type lower cladding layer, a lower guide layer, an InGaAsP quantum well active layer composed of one or a plurality of well layers and a plurality of barrier layers alternately disposed, an upper guide layer and a p-type upper cladding layer that are stacked, wherein

the quantum well active layer is stacked so that an n-side barrier layer is present on a side of the lower guide layer and a p-side barrier layer is present on a side of the upper guide layer,

said semiconductor laser device has an oscillation wavelength of more than 760 nm and less than 800 nm, and the n-side barrier layer has a thickness of 70 Å or more.

2. The semiconductor laser device according to claim 1, wherein

the p-side barrier layer has a smaller thickness than that of the n-side barrier layer.

3. The semiconductor laser device according to claim 1, wherein

the p-side barrier layer has a thickness of less than 70 Å.

4. A semiconductor laser device in which, on a p-

type GaAs substrate, there are at least a p-type lower cladding layer, a lower guide layer, an InGaAsP quantum well active layer composed of one or a plurality of well layers and a plurality of barrier layers alternately disposed, an upper guide layer and an n-type upper cladding layer that are stacked, wherein

the quantum well active layer is stacked so that a p-side barrier layer is present on a side of the lower guide layer and an n-side barrier layer is present on a side of the upper guide layer,

said semiconductor laser device has an oscillation wavelength of more than 760 nm and less than 800 nm, and the n-side barrier layer has a thickness of 70 Å or more.

5. The semiconductor laser device according to claim 4, wherein

the p-side barrier layer has a smaller thickness than that of the n-side barrier layer.

6. The semiconductor laser device according to claim 4, wherein

the p-side barrier layer has a thickness of less than 70 Å.

7. The semiconductor laser device according to claim 1, wherein

the upper guide layer and the lower guide layer

are formed of AlGaAs.

8. The semiconductor laser device according to claim 4, wherein

the upper guide layer and the lower guide layer
5 are formed of AlGaAs.

9. The semiconductor laser device according to claim 7, wherein

an Al mole fraction of the upper guide layer and the lower guide layer is more than 0.2.

10 10. The semiconductor laser device according to claim 8, wherein

an Al mole fraction of the upper guide layer and the lower guide layer is more than 0.2.

15 11. The semiconductor laser device according to claim 1, wherein

the well layer(s) has a compressive strain.

12. The semiconductor laser device according to claim 4, wherein

the well layer(s) has a compressive strain.

20 13. The semiconductor laser device according to claim 11, wherein

a quantity of an absolute value of the compressive strain is not more than 3.5%.

25 14. The semiconductor laser device according to claim 12, wherein

a quantity of an absolute value of the compressive strain is not more than 3.5%.

15. The semiconductor laser device according to claim 1, wherein

5 the barrier layers have a tensile strain.

16. The semiconductor laser device according to claim 4, wherein

the barrier layers have a tensile strain.

10 17. The semiconductor laser device according to claim 15, wherein

a quantity of the tensile strain is not more than 3.5%.

18. The semiconductor laser device according to claim 16, wherein

15 a quantity of the tensile strain is not more than 3.5%.

19. An optical disc unit wherein the semiconductor laser device of claim 1 is used.